FORENSIC SCIENTIST I (DNA)
CS-401-11

INTRODUCTION

This position is located in the Department of Forensic Sciences (DFS). The mission of the DFS is to provide high-quality, timely, accurate, and reliable forensic science services using best practices and best available technology, focusing on unbiased science and transparency, to enhance public safety and health.

The position is responsible for basic and limited laboratory work, which includes aspects of casework, accreditation, quality assurance and control programs within the Forensic Science Laboratory (FSL).

MAJOR DUTIES

Performs laboratory analyses of physical evidence in one or more of the specialty disciples of the FSL, regularly demonstrates proficiency in assigned forensic specialty; and participate in and completes externally administrated proficiency test.

Collects, preserves, and maintains evidence in the forensic laboratory to prevent contamination; and properly maintains and documents chain-of custody.

Prepares comprehensive scientific reports, declarations, and affidavits and collects statistical data. Maintains detailed records in accordance with laboratory, accreditation and statutory requirements; assists with audit preparation and administration; demonstrates continuous efforts to improve operations; and works cooperatively and jointly to provide seamless customer service.

Ensures accuracy of information received; prepares detailed note to properly document analytical results and support conclusions; interprets and analyses test results; and maintains appropriate case file documentation.

Applies specialized and challenging procedures as instructed, and takes corrective action; accepts and resolves referrals of abnormal or unusual specimens; establishes and monitors quality control procedures and coordinates the laboratory program with the overall quality control program of the laboratory.

Determines what tests, procedures and methods to use; and is required to conduct quantitative and qualitative procedures by using specific techniques, including but not limited to physical testing, visual analysis, identification and classification, comparisons, and microscopy.

Researches technical journals, textbooks, and forensic science manuals to determine best methods/practices for performing analytical tests; and participates in the development and validation of new methods and/or instrumentation.

Operates, calibrates, troubleshoots, and performs minor repairs and preventive maintenance on laboratory equipment and analytical instruments and coordinates work activities with other sections in the laboratory.

Processes evidence in the laboratory and prepares evidence for presentation in court; and meets with attorneys, investigators or other law enforcement personnel regarding the interpretation of examinations conducted.

Maintains, calibrates, and modifies complex equipment used for a variety of test and evaluation procedures.

Utilizes computer software to analyze results of quality and performance checks in order to perform quality control measures and keeps up-to-date on current studies, pamphlets, journals, and books for use in assisting in devising new methods and tests.

Projects a professional image while representing the FLS and DFS; and exemplifies Department values, both on and off duty.

Testifies in court as an expert witness in legal proceedings.

Performs other related duties as assigned.

KNOWLEDGE REQUIRED BY THE POSITION

Comprehensive knowledge of and skill in applying theories and principles, concepts, methodologies and practices of analytical chemistry, physical science, or biology or related field to the work that is sufficient to perform mathematical and statistical that relates to analyst laboratory work.

Knowledge of quality assurance and control procedures and accreditation standards; proper procedures and standard laboratory rules and safety precautions regarding chemicals, toxins and biohazards and evidence collection and preservation procedures.

Knowledge of, and ability to apply D.C. and Federal laws, codes and regulations pertaining to forensic science; and the ability to follow training on how to apply ISO 17025 accreditation standards; and apply evidence collection and preservation procedures, including proper evidence handling and chain-of-custody.

Knowledge of equipment and supplies used in a forensic laboratory including specialized scientific equipment, instrumentation and software; recent developments, current literature and other sources of information related to the assigned forensic specialty.

Ability to apply theoretical and analytical principles of natural and physical sciences, including organic, inorganic biochemistry, physical chemistry, and other applicable fields, apply operational methods and techniques of the forensic laboratory, including laboratory testing procedures.

Skill in modifying analytical methods, to solve problems or respond to technical issues on materials subject to analysis in a specialty area.

Ability and skill to work extensively with chemicals and biohazards in a safe manner; and the ability to perform a variety of scientific tests and analyses; recognize anomalies, formulate hypotheses, and take appropriate action; and prepare and maintain accurate records/data and clear and concise reports and memoranda.

Ability to keep up to date with recent developments, current literature and sources of information related to forensic sciences associated with DNA and the ability to learn how to modify analytical methods, to solve problems or respond to technical issues.

Demonstrates the ability to communicate effectively, both orally and in writing; and maintain effective working relationships.

Skill and ability to apply various forensic software applications; and skill and ability to use a personal computer to prepare, store, and retrieve data and knowledge of software affiliated with the assignment.

Exercises discretion and sound judgment to determine proper courses of action and assesses and evaluates a variety of situations, problems, conditions or questions; and ability to work safely without presenting a threat to self or others is essential.

SUPERVISORY CONTROLS

Works under the supervision of the supervisor, team leader or designated authority, who initially provides direction on the objectives, priorities, objectives, and/or deadline related to work previously performed and therefore covered by precedent. New or unusual assignments are performed by utilizing background and precedence information, including advice on the location of reference material to use or receive technical guidance and assistance from the supervisor, team leader or higher level scientists.

Independently plans and carries out individual assignments; and determines the validity of test methods and results and recommends acceptance or rejection of evidence items. Exercises independent responsibility and is held accountable for actions and findings; and consults and keeps the leader and supervisor apprised of unusual technical problems, best practices and controversial issues.

The work is reviewed for conformance to guidelines, feasibility, soundness of overall approach and the effectiveness of meeting objectives, deadlines, and expected results and adherence to requirements.

GUIDELINES

Guidelines include policies and procedures of DFS, including but not limited to the standard operating procedures developed by the Forensic Science Laboratory Units through the validation of analytical procedures; governing laws and regulations of the District and Federal government, testing regulations manuals, quality assurance and accreditation standards, and scientific literature, precedent cases, technical references, forensic techniques and literature, catalogs and handbooks, internal protocols, Mayor's Orders, instructions, etc.

The guidelines are usually applicable, however, the incumbent may be required to seek guidance/direction when applying them to specific work situations/cases that may or may not be directly related to the core problems of the assignments, have gaps in specificity or not completely applicable.

Limited judgment is exercised independently when interpreting or adapting available standards and guidelines, such as agency policies, regulations, precedents, and work directions for application. The incumbent is encouraged to analyze results and recommend changes. Utilizes

guidelines from supervisory staff as the basis for making procedural deviations from established administrative and/or technical methods.

COMPLEXITY

The work involves performing case related examinations on samples submitted for forensic analysis. Maintains quality control measures and prepares detailed documentation of test results. Assignments require the application of procedures; and require identifying problems and anticipating discrepancies in the results. The work requires modification and adaptation of various methods to satisfy requirements and to arrive at sound conclusions.

Decisions regarding what needs to be done include major areas of uncertainty in approach, methodology, or interpretation and evaluation processes that result from such elements as continuing changes in program, technological developments, unknown phenomena, or conflicting requirements.

SCOPE AND EFFECT

Conducts processes and assists team members when required; prepares documentation regarding casework, materials, equipment, and instruments; identifies problems that may alter analytical results; and ensures that all documentation is in the appropriate order for laboratory and accreditation requirements. Performs work that is closely involved in almost all phases of the scientists study and has limited responsibility for selected phases or test applications of scientific and technical theories when the methods, techniques, and procedures are clearly outlined.

Work products directly affect the design and execution of experiments; the operation of systems, programs, or equipment systems; or the adequacy of such activities as long range work plans, field investigations, testing operations, or research conclusions. The results of the work may also affect other experts and/or the department's credibility, adequacy, accuracy and effectiveness of laboratory tests.

PERSONAL CONTACTS

Contacts are with DFS employees, laboratory personnel, equipment maintenance representatives, consultants, Federal, District and accreditation regulatory agencies, and investigators; and contacts are usually established on a routine basis.

PURPOSE OF CONTACTS

Purpose of contacts is for exchanging, coordinating or resolving operational problems. Persons contacted are usually working toward a common goal and generally are reasonably cooperative. At this level, supervision will be required to deliver information, such as how data was obtained and their opinion as to the accuracy of the data.

PHYSICAL DEMANDS

Work is sedentary, however, some work requires periods of walking, standing, bending, stretching etc. The incumbent occasionally carries items weighing up to fifty (50) pounds, such as bags and/or boxes of chemicals, portable computers, peripherals, and other similar materials. Incumbent must possess sufficient manual dexterity to manipulate and operate laboratory

equipment; must be able to visually distinguish color, shape, size, number and picture resolution quality; and must be able to withstand exposure to disagreeable elements such as malodorous and/or decomposing samples/bodies, blood, bodily fluids, etc., that may pose a health risk.

WORK ENVIRONMENT

The work is performed in an office and laboratory. The office setting is when preparing documentation, and the laboratory setting is during the testing and analysis phase.

The incumbent may be exposed to hazardous materials, toxic substances, blood borne pathogens, and electric current and electrostatic discharge and is required to follow safe laboratory practices and wear protective clothing, including facial masks, safety glasses, gloves, ear protection, etc.

OTHER SIGNIFICANT FACTS

Required to successfully complete competency testing prior to beginning technical work on any equipment or instrument in a specialty discipline or sub-discipline.

The nature of the work in the Forensic Science Laboratory requires safe handling and processing of chemicals and reagents within the laboratory, and standard health and safety processes must be constantly demonstrated and reinforced.

Bachelor's degree from an accredited college or university in science; or a higher degree and/or industry certification favorably considered and two (2) to three (3) years of work experience.

SPECIAL REQUIREMENTS

This position's duty station will be housed within the Consolidated Forensic Laboratory (CFL) which is a protection-sensitive facility. As such, incumbents of this position shall be subject to criminal background checks, background investigations, and mandatory drug and alcohol testing, as applicable. This position's duty station will be housed within the Consolidated Forensic Laboratory (CFL) which is a protection-sensitive facility. As such, incumbents of this position shall be subject to criminal background checks, background investigations, and mandatory drug and alcohol testing, as applicable. Due to the handling of primary evidence, the applicant will be required to submit a buccal swab for the purposes of the DNA Quality Control database for the DFS.

The nature of the DFS mission necessarily involves the potential risks associated with biological or chemical hazards, including morgue functions. Although contact with these functions is intended to be minimal, the risks are nevertheless possible; training to recognize, address, and mitigate these risks is required as is dealing with potentially personally difficult topics, such as crime, death, and disease.